



Joyce Ackerman, 'Craig Barnitz (cbarnitz@utah.gov)' 06/15/2012 10:37 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@rockymountainpower.net>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Barnitz (cbarnitz@utah.gov)'" <cbarnitz@utah.gov>

7 Attachments

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PDF





Weekly Report 06-04 to 06-08-12.pdf Third West Weekly Log 2012-23.pdf 237202-1.pdf 237300-1.pdf 237399-1.pdf

POF PO

237530-1.pdf 237696-1.pdf

Joyce & Craig,

Attached are the reports for the week of June 4, 2012.

All air monitoring results came back negative, except for one chrysotile hit on Thursday, June 7, 2012.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
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3rd West Substation Remediation Project HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DAIL I CHECKLIST
DAT	E:	06/04/12
G	<u>eneral</u>	
		area Health and Safety Inspection
N		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
N.T		activities for the day
N	A	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
N	A	Site hazard and safety instruction for all first time employees, contractors or visitors
N		Complete Employee Meeting Record Form B (where applicable)
N		Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA	,	Confirm return of waste material manifest documents for each load with site
NA	-	manager. ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
₹	I	Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
V]	Review sign-in/sign-out log throughout and at the end of the workday.
₹	1	Secure the site at the end of the workday
<u>S</u> :	ampling	
NA	Soil C	onfirmation sampling for any newly excavated areas
		Stationary Air Monitoring during contaminated soil removal around the perimeter of the
_		exclusion zone
N	Ά	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
· N	A	Digitally photograph each sample location and at any place field sampling personnel determined necessary





☑	Electronically file photo files into the on-site database
\square	Complete Field Documentation
\square	Field Sample Data Sheets (FSDS)
abla	Logbook
\square	On-site computer database
abla	Label each sample media with a unique number
\square	Seal sample(s) in zip lock plastic bags
☑	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
Ø	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/04/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: _Justin Kargis	Title:

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			X	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			х	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	8		х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.		G	х	9
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new	~		х	
(2)	one is prepared.				

Exclusion zone inactive today, however work was conducted in this area at throughout the day. Disturbance of native material was minimized.

Newman placed yard rock around the 46 kV structure. They dug out the area for the a concrete porch on the south side of the switch gear. They also watered the pile in the afternoon before leaving for the day. CVE line crew worked on ground grid around the 46 kV structure. The trenching for this uncovered some small amounts of native material that had been soaked before digging. This material was quickly covered once the grid was placed.

Weather was hot, sunny and dry with light afternoon breezes and temperatures in the high 90's.



determined necessary



3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		DAILY CHECKLIST
DATE	D:	06/05/12
0		
	eneral	II-III - I C-C4-I
		area Health and Safety Inspection
N.A	4	Review and innecessary update Activity Hazard Analyses (AHA) based on planned site
NI.		activities for the day Sofate Planning on "Tailgate" mandatons masting for all ampleyees and contractors price
NA	1	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
N.	4	Site hazard and safety instruction for all first time employees, contractors or visitors
N/		Complete Employee Meeting Record Form B (where applicable)
NA NA		Document required Respirator Training completion with Form H
NA	_	Record times and numbers of dump trucks and trailers as they leave the site with
		contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
		manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
	•	Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
(V		Review sign-in/sign-out log throughout and at the end of the workday. Secure the site at the end of the workday
Sa	mpling	
NA	Soil Co	onfirmation sampling for any newly excavated areas
	5011 6	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
N.	A	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
N.	A	Digitally photograph each sample location and at any place field sampling personnel





Ø		Electronically file photo files into the on-site database
V		Complete Field Documentation
		Field Sample Data Sheets (FSDS)
	\square	Logbook
	\square	On-site computer database
		Label each sample media with a unique number
		Seal sample(s) in zip lock plastic bags
		Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/05/12
Location: 3rd West, 1st South, SLC	Job Number:
Survey Conducted By: Justin Kargis	Title:

		In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
Standard 1926.59	Title Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Dute
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			X	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x ,			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.	Q.		x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			3

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.	×		х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x	-		
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			9
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	X			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	10		x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone inactive today, however work was conducted in this area at throughout the day. Disturbance of native material was minimized.

Newman continued to place yard rock around the 46 kV structure and did some leveling work between the control building and switchgear. They watered the stockpile in the morning and afternoon. CVE worked on ground grid around 46 kV structure.

Weather cooled in the afternoon with strong winds and overcast skies. Temperatures dropped to the high 50's.





3RD WEST SUBSTATION REMEDIATION PROJECT **HEALTH SAFETY MANAGER (HSM)**

		DAILY CHECKLIST
DATE:		06/06/12
•		
	<u>neral</u>	Jackh and Cafeta Inspection
		area Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
☑		activities for the day Sofity Planning or "Toilegte" mandatory marting for all ampleyees and contractors prior
		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
.NA		Complete Employee Meeting Record Form B (where applicable)
NA		Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with
- ·		contaminated material.
NA		Confirm return of waste material manifest documents for each load with site
		manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA .	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		☑ Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
$\overline{\checkmark}$		Review sign-in/sign-out log throughout and at the end of the workday.
		Secure the site at the end of the workday
Sar	npling	
NA	Soil C	onfirmation sampling for any newly excavated areas
\square	Son C	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA		Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
NA		removal Digitally photograph each sample location and at any place field sampling personnel
11/4	L	determined and a second sample recation and at any place field sampling personner





☑	Electronically file photo files into the on-site database
₫	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
	On-site computer database
	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
₫	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
₫	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>06/06/12</u>
Location: 3 rd West, 1 st South, SLC	Job Number:
Survey Conducted By: _Justin Kargis	Title:

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Dute
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	· c
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.		-	х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.		3	х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	X			

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Standard	Title				Date
1926.451 (a)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	,
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	х			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
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1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a)	Bi-directional earth moving equipment shall have audible alarms.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	-	3	х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone inactive today, however work was conducted in this area at throughout the day. Disturbance of native material was minimized.

Bi-weekly meeting discussed scheduling and environmental considerations in the coming weeks as the project winds down. An onsite environmental meeting was scheduled for Friday 6/8.

Newman continued placing yard rock. They graded between the new structure and decontamination unit and the area for the porch on the south side of the control building. They watered the stockpile in the afternoon.

CVE continued trenching for and placing ground grid around 46 kV structure.

Weather was cool, breezy and dry with afternoon temperatures around 70.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

		DIVILI CHECKE 51
DATE	::	06/07/12
Ge	neral	
		rea Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
142	,	activities for the day
NA	A .	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	A	Site hazard and safety instruction for all first time employees, contractors or visitors
NA.		Complete Employee Meeting Record Form B (where applicable)
NA.	4	Document required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with
		contaminated material.
NA		Confirm return of waste material manifest documents for each load with site manager.
NA	Compl	ete all CSHASP Forms (for applicable activities planned for that day)
	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
		Exclusion zone operations are practiced as instructed.
		☐ Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
		Workers use personal protective equipment properly.
☑		Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation
		sites and track out prevention.
☑		Review sign-in/sign-out log throughout and at the end of the workday.
Ø		Secure the site at the end of the workday
<u>Sa</u>	mpling	
NA ☑	Soil C	onfirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
N	A	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
N	A	Digitally photograph each sample location and at any place field sampling personnel





Ø		Electronically file photo files into the on-site database
\square		Complete Field Documentation
		Field Sample Data Sheets (FSDS)
		Logbook
		On-site computer database
abla		Label each sample media with a unique number
abla		Seal sample(s) in zip lock plastic bags
团	,	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
		Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø		Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
		Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: 06/07/12			
Location: 3rd West, 1st South, SLC	Job Number:			
Survey Conducted By: _Justin Kargis	Title:			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			х	,
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	,
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

Standard	Title	In Compliance	Out of Compliance	0 N/A	Corrective Action Taken and Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	:
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			х	8
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	*
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.		20	x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			х	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x		,	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	х			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			# # # # # # # # # # # # # # # # # # #
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.		260	x	
1926.550 (b)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	

Exclusion zone active while excavations took place.

Newman washed out two truckloads of native material in the morning. They watered the stockpile and then excavated a trench for conduit in the EZ.

CVE excavated for and placed ground grid along the south boundary of the yard. This uncovered amounts of native material that were placed in a skid steer machine and deposited on the stock pile for removal. This work was done outside the EZ and after the soil had been soaked to eliminate creation of dust.

Weather was cool, dry and sunny with moderate afternoon winds and temperatures in the mid 70's.





3rd West Substation Remediation Project HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

	DAILT CHECKLIST
DATE:	06/08/12
General	
	area Health and Safety Inspection
NA WOIK	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
14/4	activities for the day
Ø	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable)
NA	Document required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with
	contaminated material.
NA	Confirm return of waste material manifest documents for each load with site manager.
NA Comr	lete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
	Exclusion zone operations are practiced as instructed.
	Decontamination unit is working properly.
	Workers are using decontamination unit as instructed.
	Workers use personal protective equipment properly.
	workers use personal protective equipment property.
☑	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
•	Observe control measures for dust and fugitive materials i.e. watering excavation
·	sites and track out prevention.
☑	Review sign-in/sign-out log throughout and at the end of the workday.
\square	Secure the site at the end of the workday
Sampling	
NA Soil (☑	Confirmation sampling for any newly excavated areas Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusion zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





	Electronically file photo files into the on-site database
☑	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
\square	On-site computer database
	Label each sample media with a unique number
\checkmark	Seal sample(s) in zip lock plastic bags
	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
☑	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
\square	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
☑	Electronically file sample reports into on-site database



Project: 3rd West Sub Station	Date: <u>06/08/12</u>	
Location: 3rd West, 1st South, SLC	Job Number:	
Survey Conducted By:	Title:	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	Dute
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.	3		х	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	х			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			х	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	х			

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.			х	
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.	х			
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	х			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (Ь)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	2
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			,
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.	x			
1926.102 (a) (1)	Eye and face protection shall be provided.	х			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	

Standard	Title	In Compliance	Out of Compliance	D N/A	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	х			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	x			
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	х			

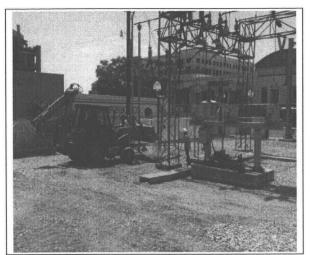
		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.		12	х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	,

Exclusion zone active while excavations took place.

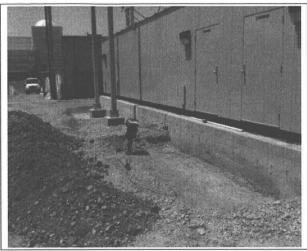
Newman washed out six truckloads of contaminated material from stockpile. They continued with excavation for and placement of conduit line to capacitor banks in the EZ.

An onsite meeting held with R&R, RMP, and CVE personnel was conducted at 10 am to determine environmental items such as eventual removal of exclusion zone, excavating into native material after decontamination unit is removed, and digging inside the UTA yard for ground grid. When EZ is removed, exposed native soil is to be kept soaked, covered, and capped as quickly as possible to eliminate release of dust. Follow up to this meeting will be conducted over the coming week.

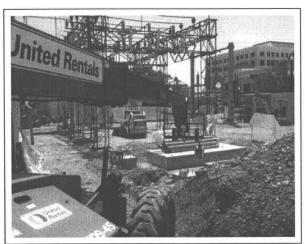
Weather was warm, dry and sunny with light afternoon winds and temperatures in the mid 80's.



РНОТО 1



РНОТО 2



РНОТО 3

R & REnvironmental, Inc.

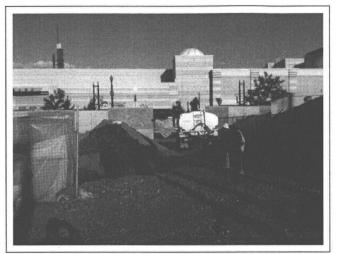
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR				
DRAWN BY: JMK	DATE 06/04/12	FILE:				

SITE PHOTOGRAPHS

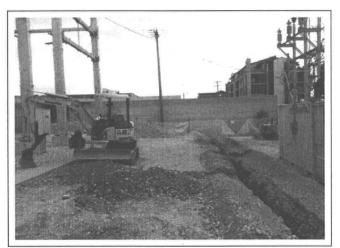




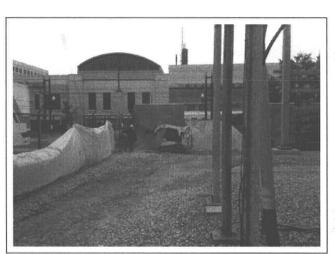
РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

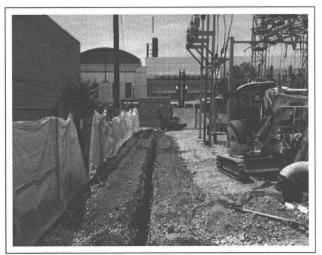
R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

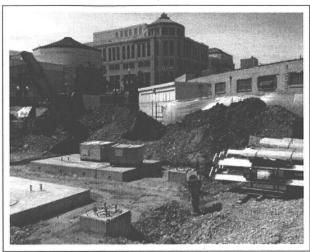
DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/05/12	FILE:	

SITE PHOTOGRAPHS









РНОТО 2

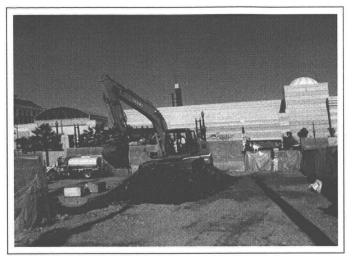
R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/06/12	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3

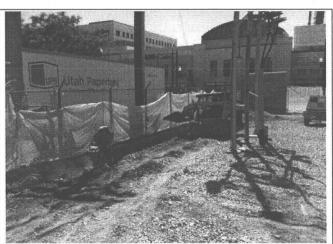


PHOTO 4

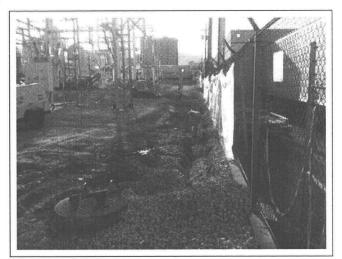
R & REnvironmental, Inc.
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(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	4
DRAWN BY: JMK	DATE 06/07/12	FILE:	

SITE PHOTOGRAPHS





РНОТО 1



РНОТО 2



РНОТО 3

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE 06/08/12	FILE:	

SITE PHOTOGRAPHS



PACIFICORP OPERATIONS - Field Construction Representative Daily Log Third West Sub - Rebuild PROJECT NAME: DATE: Monday, June 4, 2011 MAIN CONTRACTOR: Cache Valley Electric 3000078050 / 10035803 PO & Work Order NO.: Crew Start Time: Crew Stop Time: 17:10 Tot Hrs mns: 10:10 FCR Start Time: FCR Stop Time: Tot Hrs mns: 10:35 Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 72 degrees In AM, 98 degrees in PM DESCRIPTION: (work performed, general comments, Instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew installed grounding to the 46 kV structures, the new capacitor banks and jumpers to the 46 kV VTs. CVE Fab Crew not on site today. Newman installed yard rock under the 46 kV bus, excavated for the center porch of the switchgear, and exposed the #6 vault (cap bank vault) in preparation for digging duct bank from the vault to the get-a-way structures. Southwire left paperwork to have their tool boxes picked up and shipped. We are waiting for Southwire to perfonn a PD test, which is scheduled for this week. CVE Line Crew = 2, CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 3, R&R = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Al Swinski 0649 Dispatcher logout, name and time: Al Swinski 1724 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle): CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

Rocky Mountain Power

OSHA Recordable Safety Incidents:

Russ Johnson

Field Construction Representative

Reported by:

Time:

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub	- Rebuild	DATE : Tue	sday, June 5, 2	012
PO & Work Order NO. :	3000078050 / 1	0035803	MAIN CONTRACTOR	: Cache Valle	y Electric
Crew Start Time:	6:55	Crew Stop Time:	17:05	Tot Hrs mns:	10:10
FCR Start Time:	6:45	FCR Stop Time:	17:24	Tot Hrs mns:	10:39
Use military time format 00:00	<u> </u>	-	17.2		10.00
ode minuty ame format oc.ou					
WEATHER CONDITIONS:	<u></u>	Sunny - 70 degre	es in AM, 52 degrees in	PM	
DESCRIPTION: (work performance R&R set up four monitors. CVE Line					
cable trench. CVE Fab Crew not of banks. They also graded the south SW corner of the 46 kV yard. CVE	n roadway along the sou	th side of the 46 kV yard	and placed yard rock arour	nd the existing var	ult in the
IF WORKING IN ENERGIZED	SUBSTATION:				
Dispatcher login, name and time:	Al Swinski 0645				
Dispatcher logout, name and time:					
DISCREPANCIES:		<u> </u>	MMEDIATE CORRECTI	VE ACTION TA	KEN:
			- W		<u>-</u> -
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· · · · · · · · · · · · · · · · · · ·					
			_		
DELAYS OR LOST TIME ENC	OUNTERED:				
EQUIPMENT (working, delive CVE Line Crew: Portable toilet (2), fo trachoe (1), bobcat, mini-ex, water true	rklift, 1 dumpster, office tra	niler, conex , exclusion zone	conex (2), tool trailer, Pickup,	JLG (1), tool trailer.	Newman:
		·			
OSHA Recordable Safety Inc	idents:		Reported	l by:	Time:
		<u> </u>			

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Wednesday, June 6, 2012 PO & Work Order NO. : 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric Crew Start Time: Crew Stop Time: 17:15 6:55 Tot Hrs mns: 6:41 17:25 FCR Start Time: FCR Stop Time: Tot Hrs mns: 10:44 Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 50 degrees in AM, 63 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew installed grounding along the west side of the N-S cable trench and along south roadway. extending into the 46 kV yard. CVE Fab Crew not on site today. Newman compacted ABC material for the south porch slab of the control building, graded the area south of the control building, graded the area west of the N-S cable trench where CVE has been installing grounding, and watered down the waste pile. CVE Line Crew = 2, CVE Fab Crew = 0, CVE Electrical Crew = 0, Nevrman = 3, R&R = IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Al Swinski 0641 Dispatcher logout, name and time: Bany Nielson 1725 DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN: **DELAYS OR LOST TIME ENCOUNTERED:** EQUIPMENT (working, delivered, idle):

CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents: Reported by: Time:

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub -	Rebuild	DATE : Thurs	s day , J une 7, 2012
PO & Work Order NO. :	3000078050 / 10	0035803	MAIN CONTRACTOR:	Cache Valley Electric
Crew Start Time: 6	:55	Crew Stop Time:		Tot Hrs mns: 17:05
FCR Start Time: 6	:47	FCR Stop Time:		Tot Hrs mns: 17:13
Use military time format 00:00		_	·	
WEATHER CONDITIONS:		Sunny - 50 degre	es in AM , 73 degrees in	<u>PM</u>
DESCRIPTION: (work performed	d, general comme	nts, instructions to	ontractor, # of crew mer	nbe rs ons ite.)
R&R set up four monitors. CVE Line of the fence and installed ground rods or new grounds to the grounds coming we loads of material for delivery to Clean duct banks during their excavation, on duct bank that ran to the two vaults just porches on the control building and all kV duct bank. Received four track crobreaker timing equipment to Decade SCVE Fab Crew = 0, CVE Electrical C	aly on the south run, sest under the geotech Harbors and excavate the being the old 46 kV thin the time the street ground rods can be inssing lids from Progla Bub per Beth Riding's	to as not to hit the 12 kV in retaining wall. CVE Feed for the capacitor bank duct bank to the north lit gate. Received confirmstalled on the ground rass. Yesterday, loaded instructions (contacted	duct bank that runs west to a crew not on site today. Not duct banks from vault #6. JG structure, and the other a mation from RMP that we can un closest to the south fence two Southwire tool boxes for Gus Montanez and Al Swinsk	the existing vault. Tied lewman loaded out two Newman encountered two ppeared to be an old 4 kV n pour a 6" slab for the line, so as not to hit the 12 shipment. Delivered HVB
IF WORKING IN ENERGIZED SU			 	
Dispatcher login, name and time:	Bob Gentry 0647			
Dispatcher logout, name and time:			MATERIATE CORRECTLY	E ACTION TAKEN
DISCREPANCIES:	·	<u> </u>	MMEDIATE CORRECTIV	E ACTION TAKEN:
				-
				<u>.</u>
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	·			
DELAYS OR LOST TIME ENCOU	INTERED:	1		
SELATO ON EGGY TIME ENGGE	MILKLD.			
EQUIPMENT (working, delivered	l, idle):			
CVE Line Crew: Portable toilet (2), forklift trachoe (1), bobcat, mini-ex, water truck, or	, 1 dumpster, office trail	er, conex , exclusion zone	conex (2), tool trailer, Pickup, Jl	_G (1), tool trailer. Newman:
OSHA Recordable Safety Incide	nts:		Reported	by: Time:
		· · · · · · · · · · · · · · · · · · ·		
			<u> </u>	
	_			

Rocky Mountain Power

Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Friday, June 8, 2012 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO.: 3000078050 / 10035803 Crew Start Time: 6:55 Crew Stop Time: 15:00 Tot Hrs mns: 15:10 FCR Start Time: 6:52 FCR Stop Time: 8:18 Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 62 degrees in AM, 82 degrees in PM DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. CVE Line Crew (1 man - qualified observer) completed backfilling the grounding excavations along the south side of the 46 kV yard. CVE Fab Crew not on site today. Newman loaded out six loads of material for delivery to Clean Harbors and excavated for the capacitor bank duct banks from vault #6. CVE Line Crew = 1, CVE Fab Crew = 0, CVE Electrical Crew = 0, Newman = 3, R&R = 1, Wilding = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Kim Batt 0652 Dispatcher logout name and time: Jim Bovman 1717 DISCREPANCIES: **IMMEDIATE CORRECTIVE ACTION TAKEN:** DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle): CVE Line Crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, Pickup, JLG (1), tool trailer. Newman: trachoe (1), bobcat, mini-ex, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents: Reported by: Time:

Rocky Mountain Power

Field Construction Representative



June 6, 2012

Laboratory Code:

RES NA

Subcontract Number: Laboratory Report: Project # / P.O. #

RES 237202-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237202-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE L TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237202-1

Client:

R & R Environmental None Given

Client Project Number / P.O.: Client Project Description:

3rd West Sub - RMP

Date Samples Received:

June 5, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 6, 2012

Client	Lab	Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Number Analyzed		Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
		(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-060412 W	EM 884424	0.0900	929	ND	0.0046	BAS	BAS
3W-060412 N	EM 884425	0.0900	929	NO	0.0046	BAS	BAS
3W-060412 E	EM 884426	0.0900	927	ND	0.0046	BAS	BAS
3W-060412 S	EM 884427	0.0900	927	ND	0.0046	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm



DATA QA

Due Date: C C 12
Due Time: 545

REILAB RESERVOITS Environmental, Inc. 5801 Logan St. Denver, CO 602 to + Ph; 303 964-1986 • Fax 303-477-4276 • Toll Fiew: 8866 RESI-ENV

Pager : 303-509-2098

Page	1	of	

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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
Т	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

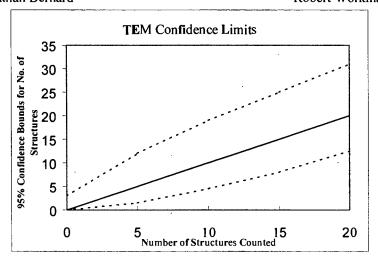
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N)S
Voltage (KV)	100 KV
Magnification	26KX 10KX
Grid ocening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RAR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	6/5/12
Lab Job Number:	237202
Lab Sample Number:	884424

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (mi)						

Analyzed by	JB
Analysis date	6/6/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	70
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

· · · · · · · · · · · · · · · · · · ·	1	Structure	No. of Str		Dimo	nsions		Mineral Class		<u></u>	T	1-1		
Grid	Grid Opening	Type	Primary	Total	Length	Width	Identification	Amphibole		NAM	Sketch/Commenis	Sketch	es, blank Photo	EDS
A	14-3	M					·				·			
	643	ND							· 					
	F4-3	W		Pu	DS A	+B	~80	pera fun	4	5	debn	,		
	E4-3	ND		-				<u> </u>						
	C4-3	NO											ļ	
B	G3-4	D			<u> </u>									
	F3-4	ND												
	E3-4	ND												
	C3-4	MD												
					<u> </u>									

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEÖL 100 CX NS
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening årea (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

	TOO O COUNT
Client :	RIR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	929
Date received by lab	6/5/12
Lab Job Number:	237702
Lab Sample Number:	884425

Analyzed by	JB
Analysis date	6/6/12
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Facfor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Voluma (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	e No. of Structures		Dimensions		Identification	Mineral Class			1 = yes, blank = no			
	, , , , , , , , , , , , , , , , , , ,	Туре	Primary	Total	Length	Width	1301111000001	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	G3-4	ND												
	F3-4	ND			Pa		80%	in but	5	/ de	hur			
	E3-4	NO		·	Pars	B-	-4					1		
	C3-4	MP						1h						
	133-4	ND						AD 6/	6/12	1				
B	H3-4	ND												
	634	ND					,							
	F3-4	ND												
	E3-4	MD												
							·							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N)S
Voltage (KV)	100 KV
Magnification	ZOKX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primaiy filter area (mm2)	385
Secondary Filler Area (mm2)	
QA Type	

Client :	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	927
Date received by lab	6/5/12
Lab Job Number:	237202
Lab Sample Numben	884426

Analyzed by	JB
Analysis date Method (D=Dlrect, I=Indirect, IA=Indirect, ashed)	6/6/12
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspenalon Volume (mi)	
Volume Applied to secondary fitter (ml)	

Grid	Grid Opening			Dimer	ensions Identification Mineral Clasa				1 = ye	s, blank	= no			
- Cind	Cita Operimig	Туре	Primary	Total	Length	Width	i dominiou nom	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	12-4	ND									, , , , , , , , , , , , , , , , , , , ,			
	62-4	ND			Pu	s *	80	The arky	4 5	bod	ems			
	F2-4	ND			Pur	, 3	80	be a hos	-50	/ode	lows			
	EZ-4	ND			1			1						
	C2-4	ND			 			18	0/6	12			. `	
B	H3-1	ND							//					
	63-1	M					/							
	F3-1	M												
	[]-1	N							·					

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory nama:	REI
Instrument	JEOL 100 CX (N)S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	RIR
Sample Type (A=Alr, D=Dust):	A
Air volume (L) or dust area (cm2)	927
Date received by lab	6/5/12
Lab Job Numben	237202
Lab Sample Number:	884427

Lab Sample Number:	884427
F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JВ
Analysis date	6/6/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	3
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Structures Dimensions		Identification	Mineral Class	,			1 = y	es, blank	= no		
	January States	Туре	Primary	Total	Length	Wklih	raditalion	Amphibole		NAM	Sketch/Comments	Sketch	Photo	EDS
A	H2-1	MD												
,	62-1	NTZ					,			· 				
	F2-1	NP			Park	25 5	4B.	~80%	u	Fred	10-15	o de	Bn.	S
	E2-1	ND			•									
	C2-1	ND						1B	loli	2				
B	H3-6	ND							/ /					
	63-6	M						7						
	F3-6	ND						-						
	E3-6	M								·				

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Caiculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filler Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = #<u>Asbestos structures</u> Area Analyzed (mm²)

GO = TEM grid opening



June 7, 2012

Laboratory Code:

RES

Subcontract Number: Laboratory Report: NA RES 237300-1

Project # / P.O. #

None Given

Project Description:

3rd West Sub-RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237300-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237300-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub-RMP

Date Samples Received:

June 6, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 7, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter	
ID Number	ID Nu	ımber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-060512 W	EM	884 6 54	0.1000	875	ND	0.0044	BAS	BAS	
3W-060512 N	EM	884 6 55	0.1000	875	ND	0.0044	BAS	BAS	
3W-060512 E	EM	884656	0.1000	875	ND	0.0044	BAS	BAS	
3W-060512 S	EM	884657	NA	871	NA	Sample	Sample rejected due to loos e debris		

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

Digitally signed
by Eleme
Elemman
Dis. CN - Eleme
Elemman, C - US, O -
Reservors
Erretronmental, inc.
Disse 2012.08.07

DATA QA

Due Date:_	6.712
Due Time:_	<u> </u>

FIESERVOIFS ENVIRONTINENTAL, INC... Saol Logan St. Denvsr, CO 80216 - Ph.: 303 S64-1966 - Fax 3a3-477-4275 - Toll Fine :866 RESI-ENV

Pager: S0S-509-200S INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** Company: Contact . F. Emmanum tel Address: hone: W 8000 S = Z Cell/pagor. Project Number and/or P.O. #: Project Doscription/Location: 32 West Sub - RMP REQUESTED ANALYSIS ASBESTOS LABORATORY HOURS: Weekdays: 7am - Tpm **VALID MATRIX CODES** LAB NOTES: RUSH (Same Day) X PRIORITY (Next Day) ___STANDARD Air = A Bulk ≈ B (Rush PCM = 2hr, TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm Soll = S Wipe = W Metal(s) / Dust RUSH 24 hr. 3-5 Day Swab = SW F = Food Quant "Prier notification Is RCRA 8 / Metals & Welding Drinking Waler = DW Waste Water = WW required for RUSH Point Count RUSH ___ 5 day ___10 day Fume Scan / TCLP ISO, +/-, inect Preps O = Other turnarounds.** Organics 24 hr. _ 3 day ____5 Day "ASTM E1792 approved wipe media only" Level II, 7402, ISO, co-vac, ISO-indirect F MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm METALS - Analyte(s) RCRA B, TCLP, We'ding Fume, E.coli O157:H7, Coliforms, S.aureus ____ 24 hr. ____ 2 Day Salmonella, Listeria, E.coll, APC, Y & M 48 Hr. ___3-5 Day RUSH ___ 24 Hr ___ 48 Hr ___ 3 Day ___ 5 Oay "Turnaround timos ostablish a laboratory priority, subject to laborstory volume and aro not guarantoed. Additional fees apply for atternours, wookends and holidays," Special Instructions: (L) / Area EM Number (Laboratoly Date Time Uso Only) Collected Collected Client sample ID number (Sample ID's must be unique) MICROBIOLOGY mm/dd/yy hhymm a/p 875 A 6losliz 875 6 8 9 10 (Additional samples shall be listed on attached long form.) NOTE: REI will analyze incoming samples based upon information received and will not be responsible for orrors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company expresentative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge. Date/Time: 6(05) Relinquished By: Sample Condition: On Ice Sealed Intact Laboratory Use Only Temp. (P3) Yes No. Yes / No -Yes / No Received By: Date/Time: Results: Contact Phone Email Fax Date Time Initials Date Time Contact Initials Contact Time Initials Contact Phone Email Fax Phone Email Fax Date Date Time Initials

> 7984 CC75 4572 7-2011_yersion 1

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	=	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	=	Tremolite		

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

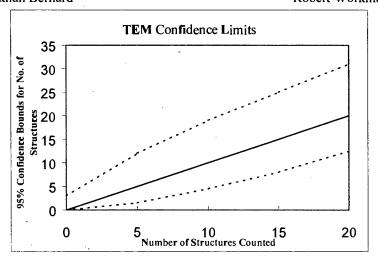
1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

٠	
Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	(20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RaR
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	875
Oate received by lab	6/6/12
Lab Job Numben	237300
Lab Sample Number:	884654

Analyzed by	AH
Analysis date	6/7/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	۵
Counting rules (ISO, ANERA, ASTM)	Alura
Grid storage location	Montti Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary filter (ml)					

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
O	Ond Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	LS3	M												
	K5.3	ND												
	HS-3	an'		0.0	- :A:	75%	in tact	79	de	65				
	65-3	ND		D 20	B	95%	intact	7%	deb	5				
	F43	ND		مد							-			
B	H4-60	ND												
	64-6	ND												
	F46.	ND				X								
	E4-6	M								•				
	24-6	ND		·				·						

Reservoirs Environmental, inc. TEM Astrestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	. 100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	RaR
Sample Type (A=Air, D=Dust):	<u> </u>
Air volume (L) or dust area (cm2)	875
Oate received by lab	10/10/12
Lab Job Number;	237300
Lab Sample Number,	884655

F-Factor Calculation (Indirect Preps Or Fraction of primary filter used	шу):
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	6/7/12
Method (D=Direct, I=Indirect, IA=IndIrect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alura
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
O.I.G	Ond Opening	Туре	Primary	Total	Length	Width	identino di di	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EOS
A	H-13	ND												
	64-3	Air)												
	F4-3	ND		50	, A:	80%	intau	L 5/	del	. کھ				
	E4-3	MD		Pie	B:7	0%	intact	:	de	/ c				
	C.4-3	M		ì					 -					
B	H5-1	NV				\bigcap	/			l.				
	65-1	ΔN				X								
	FS-1	$\Delta \Delta$				7		·						
	Es-	(00)												
	C5-(10												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RaR
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	875
Oate received by lab	10/10/12
Lab Job Number:	237300
Lab Sample Number:	884656
	١

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filtar Used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Analyzed by	
Analysis date	6/7/12
Method (D=Dlrect, l=Indirect, 1A=Indirect, ashed)	Ω
Counting rules (ISO, AHERA, ASTM)	Albera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Gr	id	Grid Opening	Structure	No. of Stru	uctures	Dimer	nsions	Identification	Mineral Class		· · · · · · · · · · · · · · · · · · ·		1 = yes, blank = no			
O.		Ond Opening	Туре	Primary	Total	Length	Width	rechanceson	Amphibole	C NAM		Sketct\/Comments_	Sketch	Photo	EDS	
É	7	+14-(ND													
		64-1	ND.		:											
		F4-1	ND		Pe	A:9	0%	tact	54d	ebs						
		E4-1	MA		P. 6	31	Prest	4								
		4-1	$V\Delta$		Y											
T	3	644	ND													
		Fyy	<u></u>						1			·		·		
		E4-4	70					. /							-	
		(4-4	ND													
		B4-4	N								·	·				

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI							
Instrument	JEOL 100 CX N S							
Voltage (KV)	. 100 KV							
Magnification	20KX 10KX							
Grid opening area (mm2)	0.01							
Scale: 1L =	0.28 um							
Scale: 1D =	0.056 um							
Primary filter area (mm2)	385							
Secondary Filter Area (mm2)								
QA Type								

Client :	RaR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	875
Date received by lab	10/12
Lab Job Number:	237300
Lab Sample Number:	884657

Analyzed by	
Analysis date	6/7/12
Method (D=Oirect, I=Indirect, IA=Indirect, ashed)	a
Counting rules (ISO, AHERA, ASTM)	Alvera
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

F-Factor Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspension Volume (ml)							
Volume Applied to secondary filter (ml)							

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
Ond	Ond Opening	Туре	Primary	Total	Length	Width	identineation	Amphibole C		NAM	Sketch/Comments	Sketch	Photo	EDS
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							·							
						·								
								·						

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the sampies, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



June 8, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 237399-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoir's Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237399-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237399-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

June 7, 2012

Analysis Type: Turnaround: TEM, AHERA 24 Hour

Date Samples Analyzed:

June 8, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter			
ID Number	ID Number		Analyzed	Volume	Asbestos	Sensitivity	Concentration	Loading			
				Sampled	Structures Detected						
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)			
3W-060612 W	EM	885207	0.0900	922	ND	0.0046	BAS	BAS			
3W-060612 N	EM	885208	0.0900	922	NO	0.0046	BAS	BAS			
3W-060612 E	EM	885209	0.0900	920	ND	0.0046	BAS	BAS			
3W-060612 S	EM	885210	0.0900	920	1	0.0046	0.0046	11.1			
NA = Not Analyzed			Filter Materia	al = Mixed Ce	Ilulose Ester		Opinity signed by Elevia Elevinus				
ND = None Detected			Filter Diamet	ter = 25 mm			ON CH - Elane Elaman C -				
BAS = Below Analytica	I Sensitivity		Effective Filt	er Area = 385	sq mm		American Environments				
Average Grid Opening	in mm² = Î	0.010			·		Ome 2012.09.08 14 56 50 -04707				

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number:

RES 237399-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description:

Date Samples Received:

3rd West Sub - RMP

Analysis Type:

June 7, 2012

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June S, 2012

Client ID Number	Lab ID No	umber	Asbestos Mineral	Asl	pestos Str	ucture Typ	oes*	Structures >5 Microns in Length	**Excluded Structures	Asbestos ** Structures for	
			-	Fibers	Bundles	Clusters	Matrices	•		Concentration	
3W-060612 W	EM	885207	ND	0	0	0	0	. 0	0	0	
3W-060612 N	EM	885 20 8	ND	0	. 0	0	0	0	0	0	
3W-060612 E	EM	885 209	ND	0	0	0	. 0	0	0	0	
3W-060612 S	EM	885210	Chrysotile	1	0	0	0	1	0	1	

^{*}See Analytical Procedure for definitions

^{**}C = Excluded from total due to lack of confirmation

^{**}L = Excluded from total for length less than 0.5 micron (AHERA only)

^{**}A = Excluded from total due to i ncorrect aspect ratio

ND = None Detected

RES 237399

Pager : 363-558-2096

				INV	OICĚ TO: (IF	DIF	FERE	NT)									С	ONTAC	T IN	FOR	MAT	ION:				
Company: R	R Environmenta	λ		Company:						Со	tact: (Carl	Vo	ske	(ley				Cornect							
Address: 47	w 98005 #2			Address:						Ph	Phono:							Phone:								
Sav	dy ut 84071	0		. :														FaX:								
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Project Descript	on/Location: 339 West	Sub-RND																								_
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1	, Listeria, E.coli, APC,					1 5		OSHA	9	re(s) Welding Fume,		11	7		Far Far) <u>e</u>	1	Ì	1	1			-		
Mold	, 20.01,2, 2.00,, 1.00,			48 Hr 3 E	Day5 Day	2	je 8	i g	Respirable	(S. P.		+	Ė		o b	3	ဖြ	-			l					
**Tumaroun	d times establish a laborator	y priority, aubject to labo	retory volume and ar	e nof Guaranta	sd. Additional fees	ž	9 5	740	88		[E]	\$ <u>\$</u>	8	3 6	* -	8 3	Į.	_ _	ŀ							
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	samples received:	(ㅂ)			shall be listed or															•						
	El will analyze incoming sample ss indicated on this Chain of Cus																		ivs ag	rees th	at subm	#ssion of	the following sa	mples for r	equested .	
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Received B	ory Use Only y:	_li	Dat	e/Time:	6.3	12	2	4	صا	Cerrie	r:	F,	1	1	<u>-</u> 火			Ţ	emp.	(F°)		Y	res / No Y	es / No	Yes No	
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L	Contact	Phone Email Fax	Date	Tim	e ini	lials	C	onlac	:t			Phone	Em	nail F	ax			Date				Tim	10	init	ials	

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite T = Tremolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

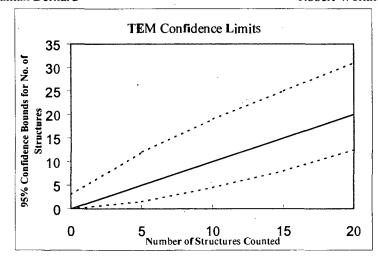
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Resenroirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (1)S
Voltage (KV)	100 KV
Magnification	(20K) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	922
Date received by lab	6/3/12
Lab Job Number:	237399
Lab Sample Number:	885207

Analyzed by	JB
Analysis date	6/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of Structures		e No. of Structures		Dime	nsions	identification	Mineral Class				1 = ye	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole		NAM	Sketch/Comments	Sketch	Photo	EDS		
A	K3-3	M														
	H3-3	ND			?u	5 A	70%	about.	3-5	70 d	ebrs					
	633	ND			Ru	13	90%	nhust 3	الم		bus					
	F3-3	ND							<u></u>							
	E3-3	ND						43	10/	1/12						
B	K3-1	ND					·		/	/						
	H3-1	ND						/								
	613-1	70			-											
	F3-1	ND		•												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX OS
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid openina area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	·

Client:	RHR
Sample Type (A≠Air, D=Dust):	A
Air volume (L) or dust area (cm2)	922
Date received by lab	6/3/12
Lab Job Number:	237399
Lab Sampla Number	885208

Analyzed by	JB
Analysis date	6/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only): Fraction of primary fater used Total Resuspension Volume (mt)					
Fraction of primary filter used					
Total Resuspension Volume (ml)					
Volume Applied to secondary filter (ml)					

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification Mineral Class			1 = yes, blank = no				
Gild	Ond Opening	Туре	Primary	Total	Length	Width	i dominionion	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H3-1	MD		·				·						
	613-1	NO		,	2	p y	+13	~ 70%	uh	at.	3-5% de	ous		
	F3-1	ND			\			1						
	E3-1	ND						16	8/12					
·	E4-4	ND							//					
3	H3-6	ND				,	/							
· 	63-6	MO												<u> </u>
	F3-6	ND												
	E36	MD												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (S
Voltage (KV)	100 KV
Magnification	20KX LOKX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

RHR
A
920
6/3/12
237399
885209

F-Factor Calculation (Indirect Preps Only): Fractian of primary (liter used Total Resuspension Volume (ml)				
Fractian of primary (liter used				
Total Resuspension Volume (ml)				
Volume Applied to secondary filter (ml)				

Analyzed by	JB
Analysis date	6/8/12
Method (D=Direct, I=Indirect, IA=IndIrect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dimer	Dimensions Identification		Mineral Class				1 = yes, blanit = no		
O.I.C	Ond Opening	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	HZ-3	M				Pn	p A	80 / in h	no F	5%	debus			
	62-3	MD				R	oB.	60% ch	ut	50	debus			
	1 1	MD							de		/			
<u>.</u>	EZ-3	N						4	P .	9/8/1	2			
	E2-4	MD												
3	144-4	ND												
	64-4	MD							-					
	F4-4	MD												
	E4-4	M												

Page	1	of		

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX 60 S
Voltage (KV)	100 KV
Magnification	(20K) 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	, '

RAR
A
920
6/3/12
237399
885210

Analyzed by	JB
Analysis date	6/8/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Facior Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspension Volume (ml)							
Volume Applied to sacondary filter (ml)							

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = ye	es, blank	= no
Gild	Grid Opening	Туре	Primary	Total	Length	Width	Identinication	Amphibole	С_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H36	ND									,			
	G3-6	ND			Par	· A	70%	in but	5-	7%	repris			
	F3-6	ND			Rus	B	90%	what	5- 5	20/	lebus			
	£3-6	ND												
	C3-6	ND		`				·		ļ 				
B	K3-60	F			18	1	CO		1		TRI			
	F3-6	ND						leb 1			11111			,
	536	ND						756/8	1/2					
	1+3-6	2				,								

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, $mm^2 = \# GO$ counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Anaiyzed (mm²)

GO = TEM grid opening



June 11, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 237530-1 None Given

Project Description:

3rd West Sub - RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237530-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237530-1

Client:

Client Project Number / P.O.:

R & R Environmental None Given

Client Project Description:

3rd West Sub - RMP

Date Samples Received:

June 8, 2012

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

June 9, 2012

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID Ni	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-060712 W	EM	885474	0.0900	869	ND	0.0049	BAS	BAS
3W-060712 N	EM	885475	0.0900	869	ND	0.0049	BAS	BAS
3W-060712 E	EM	885476	0.0900	869	ND	0.0049	BAS	BAS
3W-060712 S	EM	885477	0.0900	878	ND	0.0049	BAS	BAS

NA = Not Analyzed

ND = None Detected

BAS = Below Analytical Sensitivity

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

Filter Diameter = 25 mm

Effective Filter Area = 385 sq mm

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Oigitally agned by Eligha Ellerman DN CN = Eligha Ellerman, C = US, O = Reservoirs Environmental, Inc. Oste. 2012.08.11 10:21.56-08007

DATA QA

Due Date:_	6-32	
Due Time:	238-	,

REILAS Reservoirs Environmental, inc.

	980 Logan St. Denver, C Pager: 303-801	8-208	8		4-108e	Fax 3	03 47	7-427	5 • Te	e Fre	:66e	RES	I-ENV			-				Page	1_0	of	<u>.</u>
Company: 0 E / E	INVOICE TO: (IF	DIF	FERE	NT)		Contac	± 0		7	- 12		<u> </u>		CON	IAC		ORI	MATIC	<u>)N:</u>				
Address: 47 W 9000 5 #2	Address				Contact: Dave Roskelby Phono:										Phono:								
Sandy UL. 84043						Fex:		-									ex:						
Savey UK. 84645	 	_				Cell/pa	iger. §	26)(SU	1-1	5724						Cell/pa	igsr.					
Project Number and/or P.O. #;	<u> </u>					Final I	Deja De	elivera	bte Em	nail Ad	dress:			-			_						
Project Description/Location: 3 West Sub - KMP		_					dev	<u>e (</u>	m	em	40	ه)،	<u> </u>										<u>. </u>
ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm			. Y	V	REC	QUES	STEC	AN (IALY	(SIS			1.		1 - 1	VALI	D M	ATRI	K CO	DES	LA	B NOTE	S:
PLM / PCM / TEN RUSH (Same Day) X PRIORITY (Next Day)STANDARD									П						ir = A	\		Bu	ılk = B			
(Rush PCM = 2hr, TEM = 6hr.)				1 1	- 1 1			1]]		L	D	ust =	D_		Pa	int = P			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm		1		1			-		1	1 1			1			oil =			:	pe = W			
Metal(s) / Dust RUSH 24 hr3-5 Day	**Prior notification is	l	털	11			- [11	1_		-			I.		ab = :				= Food			
RCRA 8 / Metals & Welding RUSH 5 day 10 day	required for RUSH	Ę	Quant,		- []	Scan	1		Quantification] [.	[.	<u>[c</u>	hinking	Wate				Vater = WW			
Fume Scan / TCLP	turnarounds.**	Point Count		1 1		20] []]		l i,	antification NOTES	⊢				= Oth					
Organics 24 hr 3 day 5 Day		ş	ISO, ect P	1 1		Metals	- 1	1 1	18		ទី ទ		E S	<u> </u>	"AST	M E17	92 ap	proved	wipe n	nedia only**		 	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pi		report.					- 1		þ	ğ	Quantification Quantification	§ (OTHER O	- 1		1	- }						
E.coll O157:H7, Coliforms, S.aureus 24 hr. 2 Day	3-5 Day		7402, O-Ind	NSTA ATSO	اا	TCLP, Welding Fume,			1	3		꼴.	<u>រ</u> ្ទុ គ្	- {			- 1		Ì				
Salmonella, Listeria, E.coli, APC, Y & M48 Hr3-5 Da		je je] ≟ ≌		Respirable lyte(s)	層		141	4	Quentif	ŏ∣∂	les !	\$ 15	- 1			- 1						
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Special Instructions:	<u> </u>	Sport	AHERA rant, Mix	7400A.	Total,	힏	が置	18		7	Ë	7	÷ 😨	- (₹	Code	9		ţ				
Special matructions:		Į.	4 5	*	. 9	80		E.coft 0157:H7:	a steri	3	S. aureus:	\$	道 형	- 1	Pe A	O X	Containers	Dat	te (Time	EM NU	mber (La Use Only)	
Client sample ID number (Sample ID's must be unique		1	TEM - AHERA, Level Semi-quant, Micro-vac,	\$	DUST -	RCR4	ORGANICS - METH Salmonella: +/-		VICRO		~1**	-	SAM		Sample Volume (L) / Area	Matrix	ပို *	Collect mym/de		Collected			
1 3W-060712W		1	X		- -				1			11		- {	869	A	- [607	he		€	354:	} 4
2 3W-060712 N						300								7	569							7 -	75
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NOTE: REI will snalyze incoming samples Deserving infonnation received and will not be snalysis as indicated on this Chain of Custody shall constitute an analytical services agreer	responsible for errors or ornisalone in o	alcula	tions re:	sulting fro	om the l										sentatív	a agree	e the	almdua :	sion of	the following sa	mples for n	aquestad	
Relinquished By:	Fed Ex			Date	/Time:	6	07	lız							Sa	mple	Conc	dition:	0	on Ice	Sealed	intac	t
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Resulls: Contact Dave Phone Einall Fax Date	. 7 Time 1 5400 Inli	ials	/K c	ontaot			Pł	none	Em	ai) F	ах				Date				Time	е	Init	als	
Contact Phone Email Fax Date	Tims Init	ials		ontoct		_			Fur)ate				Time	е	Inil	als	
<u> </u>	Charles .			-4 l_ver			2_	3	9.	44													



June 12, 2012

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 237696-1 None Given

Project Description:

3rd West Sub - RMP

Eldon Romney R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 237696-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Cods 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 237696-1

Client:

R & R Environmental

Client Project Number / P.O.:

None Given

Client Project Description: Date Samples Received:

3rd West Sub - RMP

Analysis Type:

June 11, 2012

Turnaround:

TEM, AHERA

24 Hour

Date	Sample	s Analyzed:
------	--------	-------------

June 12, 2012

Client ID Number	Lab ID Nu	ımber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-060812 W	EM	885831	0.1000	660	ND	0.0058	BAS	BAS
3W-060812 N	ЕМ	885832	0.1000	664	ND	0.0058	BAS	BAS
3W-060812 E	EM	885833	0.1000	664	ND	0.0058	BAS	BAS
3W-060812 S	EM	885834	0.1000	660	ND	0.0058	BAS	BAS

NA = Not Analyzed

Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester

ND = None Detected Filter Diameter = 25 mm BAS = Below Analytical Sensitivity

Effective Filter Area = 385 sq mm

DATA QA

Due Date:_	C12:12
Due Time:	9-1-pm

REILAB RESERVOITS ENVIRONMENTAL, INC. 5001 Logan 5t. Danver, CO 802 td · Phr. 303 994-1986 · Fax 393-477-4275 · Toll Free :866 RE8I-EMV Page Pagar : 303-509-209e INVOICE TO: (IF DIFFERENT) **CONTACT INFORMATION:** R&R Eurinonmental Company: Contact Dave Roskelley Contact: Address: 47 W 90005 #2 Phone: Fax: Cell/pager CelVpager: Project Number and/or P.O. # Final Data Octiverable Email Address Project Description/Location: West Sub-RMP develorenviro.com ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm REQUESTED ANALYSIS **VALID MATRIX CODES** LAB NOTES: RUSH (Same Day) X PRIORITY (Next Day) STANDARD Bulk ≈ B Air = A (Rush PCM = 2hr. TEM = 6hr.) Dust = D Paint = P CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm Soil = S Wipe = W RUSH 24 hr. 3-5 Day Metal(s) / Dust Swab = SW F = Food Quant Prior notification is RCRA 8 / Metals & Welding Drinking Water = DW | Waste Water = WW RUSH ___ 5 day ___10 day required for RUSH Fume Scan / TCLP A. +. O = Other turnamounds ** 24 hr. ___ 3 day ___5 Day Organics **ASTM E1792 approved wipe media only** 8 F MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm E.coli O157:H7, Coliforms, S.aureus ____ 24 hr. ___ 2 Day 48 Hr. ___ 3-5 Day Salmonella, Listeria, E.coli, APC, Y & M Mold RUSH 24 Hr 48 Hr 5 Day 3 Day "Turnsround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional feeapply for afternours, weekends and holidays." Matrix Code Special Instructions: EM Number (Laborator) Date Time Use Only) Collected Collected Client sample ID number (Sample ID's must be unique) mm/dd/w hh/mm e/n 3W-060812W 608112 3W-060812N 3W-068812 E 300-0608125 6 8 9 10 (Additional samples shall be listed on attached long form.) Number of samples received: NOTE: REL will analyze incoming semplas based upon information motived and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following semples for recursive analysis as inclicated on this Chain of Custody shall constitute an enalytical services agreement with payment terms of NET 30 days, failure to compty with payment terms may result in a 1.5% monthly interest surcharge. Relinguished By: Date/Time: Sample Condition: On Ice Sealed Intact Laboratory Use Opt Temp. (F°) Yes / No Yes/No Yes/No Received By: Date/Time: Results: Phone Email Fax Email Fax Contact Contact Data Time Initials Date Time Initials Conlact Phoae Email Fax Time Phone Email Fax

7-2011 version 1

Contact

Date

Initials

Date

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type A = Amosite An = Anthophyllite C = Chrysotile Cr = Crocidolite T = Tremolite Structure Types F = Fiber B = Bundle C = Cluster M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

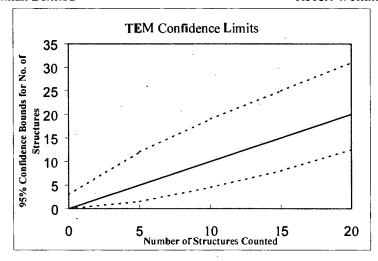
XGB = partly obscured by a grid bar

Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification	20iCX 10KX
Grid opening area (mm2)	0.01
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	· · · · · · · · · · · · · · · · · · ·
QA Type	

RF
A
660
6/11/12
237696
885831

Edb Gumple (Minbol)		
F-Factor Calculation (Indirect Preps	Only):	
Fraction of primary filter used		
Total Resuspension Volume (ml)		
Volume Applied to secondary filter (ml)		

Analyzed by	JB
Analysis date	6/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	b /
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Oate Analyzed

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Identification Mineral Class				1 = ye	es, blank	= no
	9,10	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	G2-3	ND								 				
	F2-3	ND								· · · · · · · · · · · · · · · · · · ·				
	EZ-3	ND			()	0	1+3	~ 80%	ahn	4	3-5%	else	5	·
	CZ-3	ND				,		6						
	B2-3	ND						AB.	0/11/1					L
B	K36	NO						/ (//					
	H3-6	MD				·	,							
	613-6	ND												l. <u>.</u>
	F3-6	NO												
	E36	NP												

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N(S)
Voltage (KV)	100 KV
Magnification _	(20KX) 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filler Area (mm2)	363
QA Type	

RAR
I'A
664
6/11/12
237696
885832

Analyzed by	JB
Analysis date	6/11/12
Melhod (D=Direct, I=Indirect, IA=Indirect, ashed)	D/
Counting nites (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filter used					
Total Resuspension Voluma (ml)					
Volume Applied to secondary filter (ml)					

Grid	Grid Opening	Structure	No, of Str	uctures	Dimer	Dimensions		Identification Mineral Class				1 = ye	s, blank	= no
	Ond Opening	Туре	Primary	Total	Length	Width		Amphibole	_с	NAM	Sketch/Comments	Sketch	Photo	EDS
A	14-4	ND				 								
	K44	M			Pm	0 *	80	Lein how	£ .	3-5	Lo Schor	5		
	144-4	NO		·	Pw.	, 3	80	L'in Lus	F	350	to Selow	•_		
	64-4	ND							1		j			
	G15-1	ND						1	1	lul	2			
B	12-4	NO						4		77				
	124	M						7						
	F2-4	N				·								
	62-4	N)			,									
	12-4	50												

Resenroirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX NES
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	, 0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Pilfer Area (mm2)	
QA Type	

	72 7 ID DOD TO OT BOTTO COUNT						
Client :	RtR						
Sample Type (A=Alr, D=Dusi):	'A						
Air yolume (L) or dust area (cm2)	664						
Date received by lab	6/11/12						
Lab Job Number:	237696						
Lab Sample Number:	885833						

Analyzed by	20
Analysis dale	6/11/12
Method (D=O)rect, I=Indirect, IA=Indirect, ashed)	' D'
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (indirect Preps	Only):
Fraction of primary fixter used	
F-Factor Calculation (indirect Preps Only): Fraction of primary filter used Total Resuspension Volume (ml) Volume Applied to secondary filter (ml)	
Volume Applied to secondery fitter (ml)	

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class	Mineral Class			1 ≃ v	es, blank	= no
Gild	Grid Opening	Туре	Primary	Total	Length	Width	Ideranication	Amphibole	c	NAM	Sketch/Comments	Sketch	Photo	EDS
A	131	ND		·										
	K3-1	ND		·										
	H3-1	ND			1 Ch	p &	-+ B	~70%	enh	ut	3-5%	de	m	5_
<u> </u>	1641	NP				N N								
	Het	M						1	6/	11/12	4			
13	13-3	ND		·					/	/				
	153-3	ND												
	H3-3	NP												
	613-3	ND												
	F3-3	ND						,						

Reservoirs Environmental, inc. TEM Asbestos Structure Count

í ·	
Laboratory name:	REI
Instrument	JEOL 100 CX NES
Voltage (KV)	100 KV
Maanification	20KX 10KX
Grid opening area (mm2)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filler Area (mm2)	
QA Type]

Client:	Rtz
Sample Type (A=Air, D=Dusf):	'A
Air volume (L) or dust area (cm2)	660
Date received by lab	6/11/12
Lab Job Number:	237696
Lab Sample Number:	885834

Analyzed by	JB
Analysis date	6/11/12
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	\p'
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps	Only):
Fraction of primary filter used	
Total Resuspension Volume (mi)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class	Aineral Class				1 = yes, blank = no		
·	Ond Opening	Туре	Primary	Total	Length	Width	Identification	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS	
LA	13-1	NO						.• `							
	K3-1	NO			(2	ne)	70	of in he	26	3-9	Je Leber	3			
	H3-1	NP			Pu	0 1	5 60	ho who	1	3-5	% Jelon	res			
	613-1	NO													
	F3-1	NP						A	1						
B	E3-6	N					r	4	0/12/	12					
	C3-6	ND							//						
	B3-6	ND										·			
	65-4	ND													
	F5-4	ND													

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening